FACULTY OF MEDICINE
1976
Suez Canal University

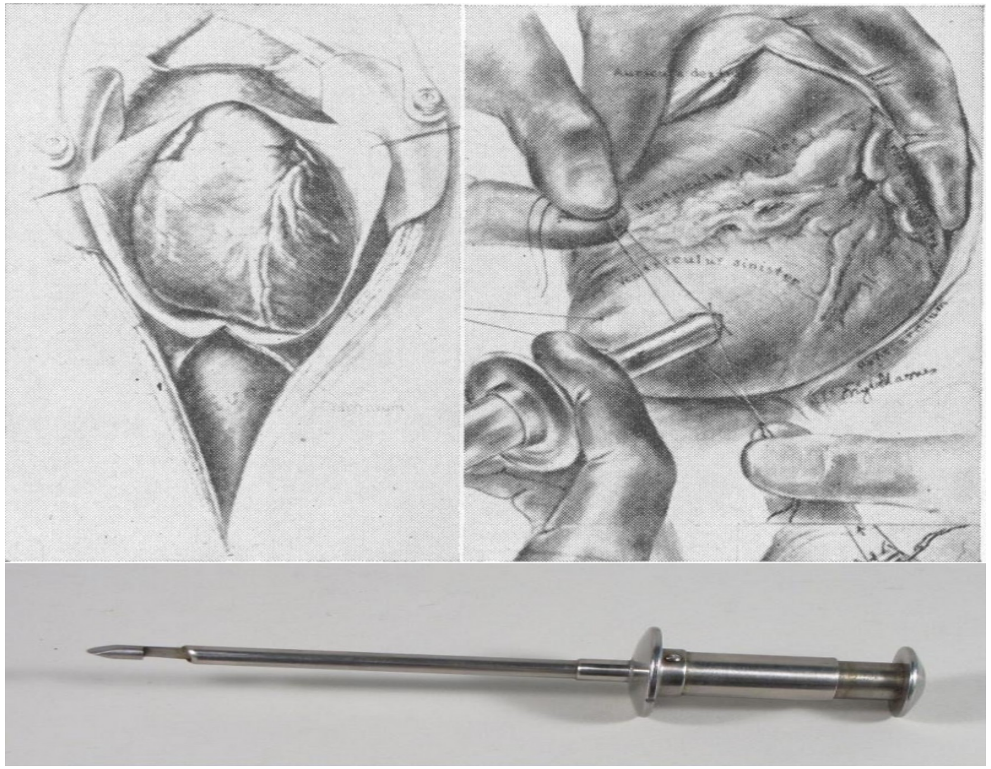
MAGDI YACOUB
HEART FOUNDATION
Aswan Heart Centre

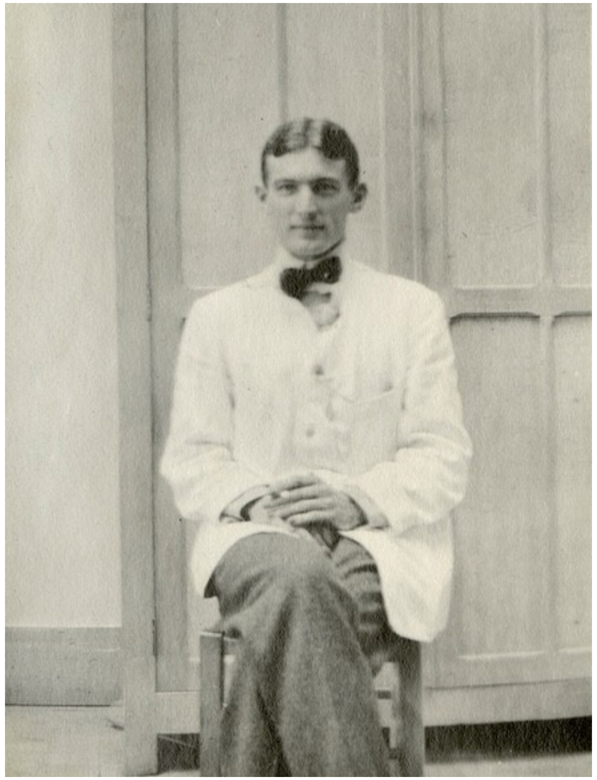
Comparative Study of Mid-Term Outcomes of Mitral Valve Repair and Mechanical Mitral Valve Replacement

ASWAN HEART CENTRE
MAGDI YACOUB
FOUNDATION

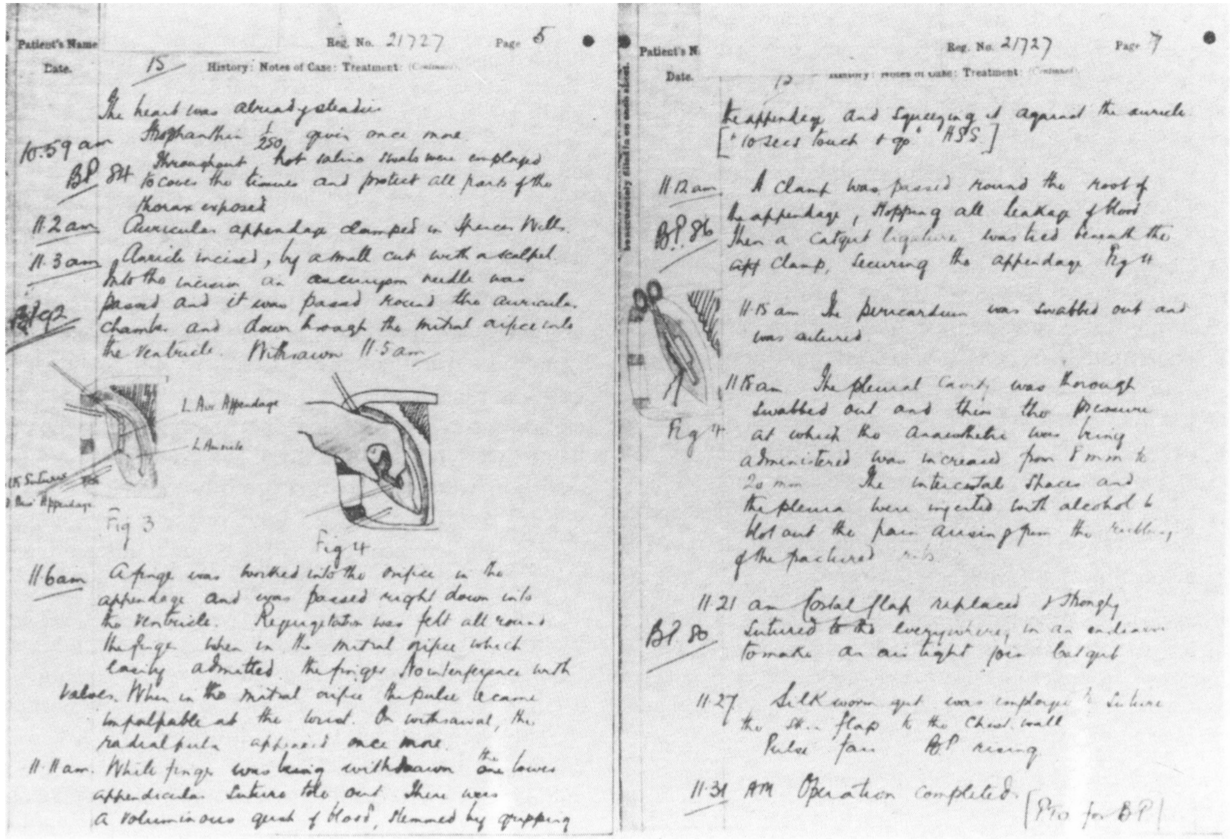
Century of mitral valve surgery (1923-2023)

Dr, Elliot Cutler (1923)


Ventriculus sinister



Sir, Henry Souttar (1925)



Patient's Name Reg. No. 21727 Page 5

Date. 15 History: Notes of Case: Treatment: (Continued)

The heart was already steadier

10.59 am Strophanthin 1/250 given once more

BP 84 Throughout hot saline swabs were employed to cover the tissues and protect all parts of the thorax exposed

11.2 am Auricular appendage clamped in Spencer Wells.

11.3 am Auricle incised, by a small cut with a scalpel. Into the incision an aneurysm needle was passed and it was passed round the auricular chamber and down through the mitral orifice into the ventricle. Withdrawn 11.5 am

BP 92

L. Aur Appendage

L. Auricle

Sutures

Aur Appendage

Fig 3

Fig 4

11.6 am A finger was worked into the orifice in the appendage and was passed right down into the ventricle. Regurgitation was felt all round the finger when in the mitral orifice which easily admitted the finger. No interference with valves. When in the mitral orifice the pulse became impalpable at the wrist. On withdrawal, the radial pulse appeared once more.

11.11 am. While finger was being withdrawn the one lower appendicular suture tore out. There was a voluminous gush of blood, stemmed by gripping

Patient's N Reg. No. 21727 Page 7

Date. 15 History: Notes of Case: Treatment: (Continued)

the appendage and squeezing it against the auricle [*10 secs touch & go* H.S.S.]

11.12 am A clamp was passed round the root of the appendage, stopping all leakage of blood. Then a catgut ligature was tied beneath the app clamp, securing the appendage. Fig 4

BP 86

11.15 am The pericardium was swabbed out and was sutured.

11.18 am The pleural cavity was thoroughly swabbed out and then the pressure at which the anaesthetic was being administered was increased from 5 mm to 20 mm. The intercostal spaces and the pleura were injected with alcohol to blot out the pain arising from the rubbing of the fractured ribs.

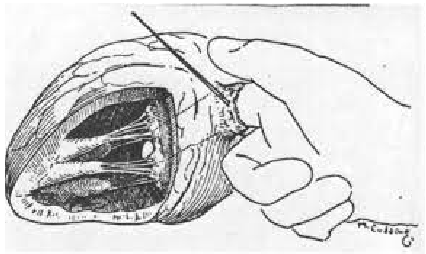
Fig 4

11.21 am Costal flap replaced & strongly sutured to the everywhere, in an endeavour to make an air tight join. Catgut

BP 80

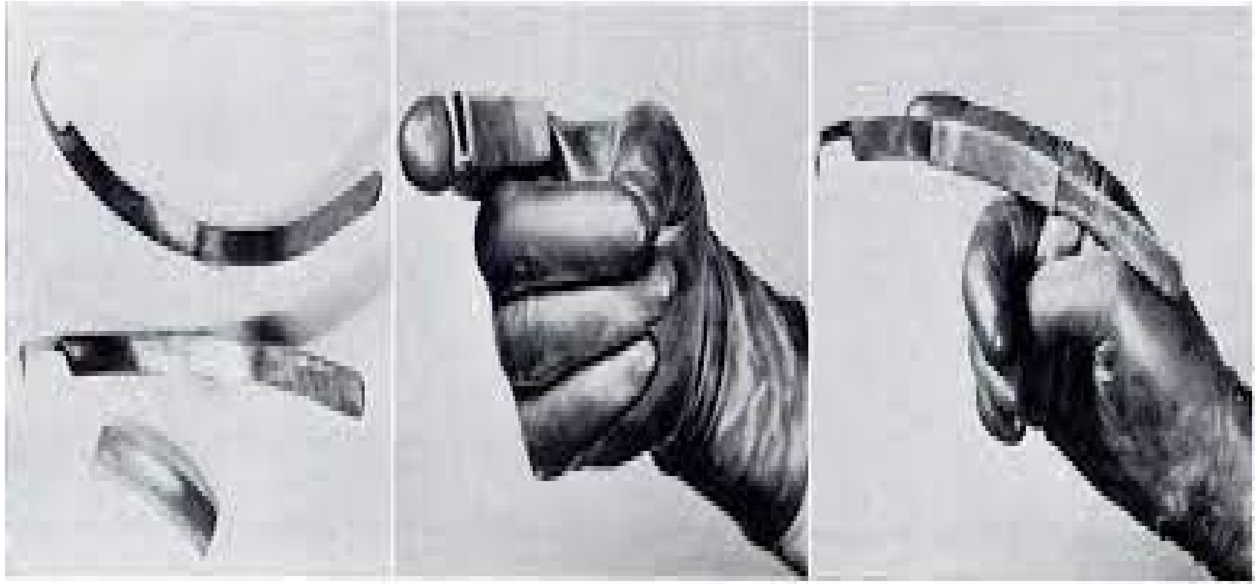
11.27 Silkworm gut was employed to suture the skin flap to the chest wall. Pulse fair BP rising

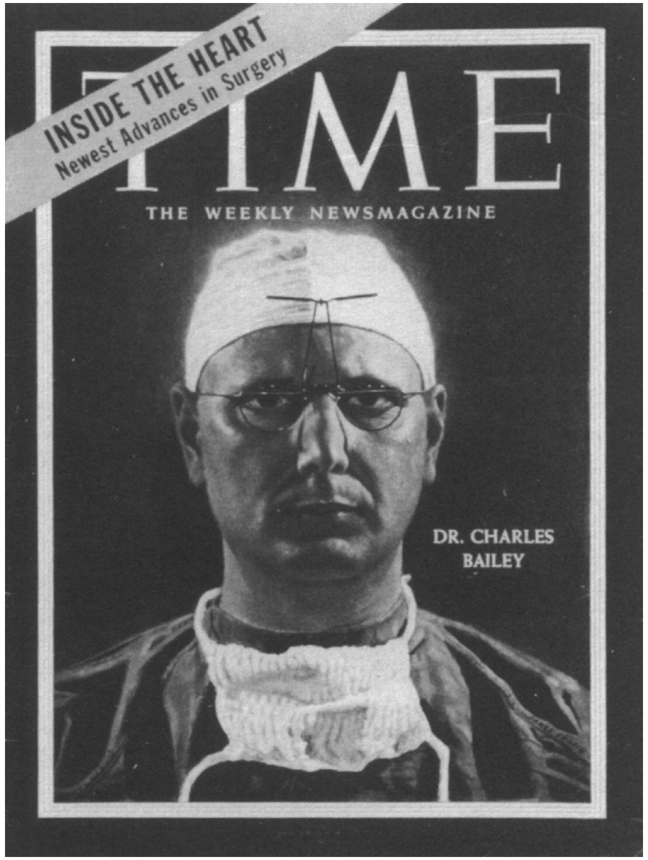
11.31 AM Operation completed. [PTO for BP]



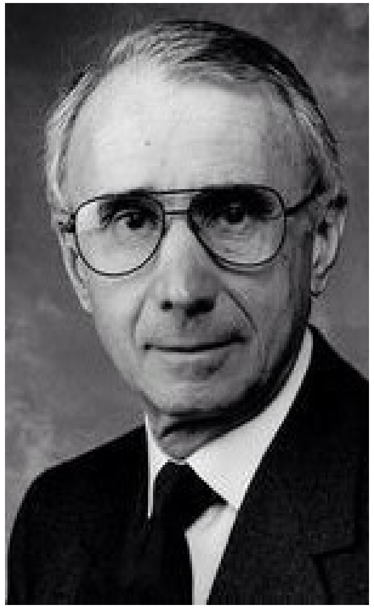
Dr, Dwight Harken (1947)

Dr, Charles Bailey (1948)




INSIDE THE HEART
Newest Advances in Surgery
TIME
THE WEEKLY NEWSMAGAZINE
DR. CHARLES BAILEY

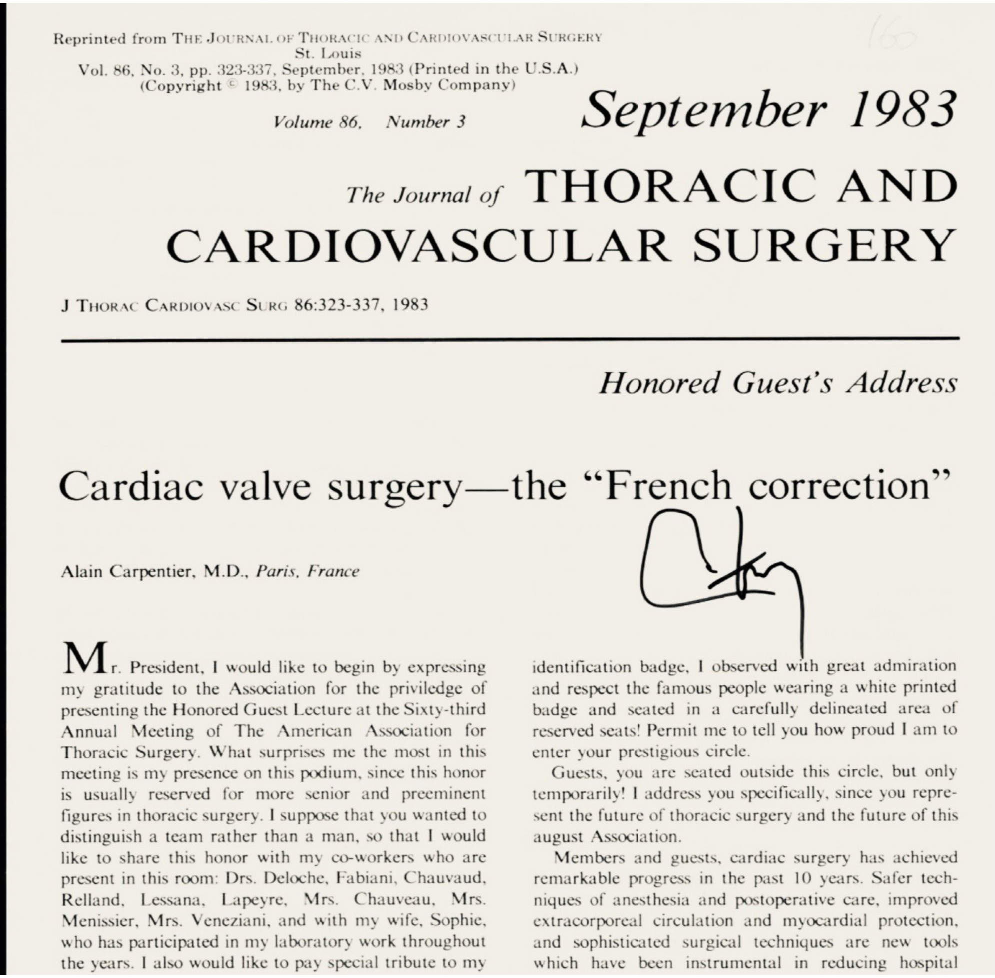
Walton
Lillehei



Harold Kay

Frank
Gerbode

Robert Frater



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The Journal of THORACIC AND CARDIOVASCULAR SURGERY

J Thorac Cardiovasc Surg 86:323-337, 1983

Honored Guest's Address

Cardiac valve surgery—the "French correction"

Alain Carpentier, M.D., *Paris, France*

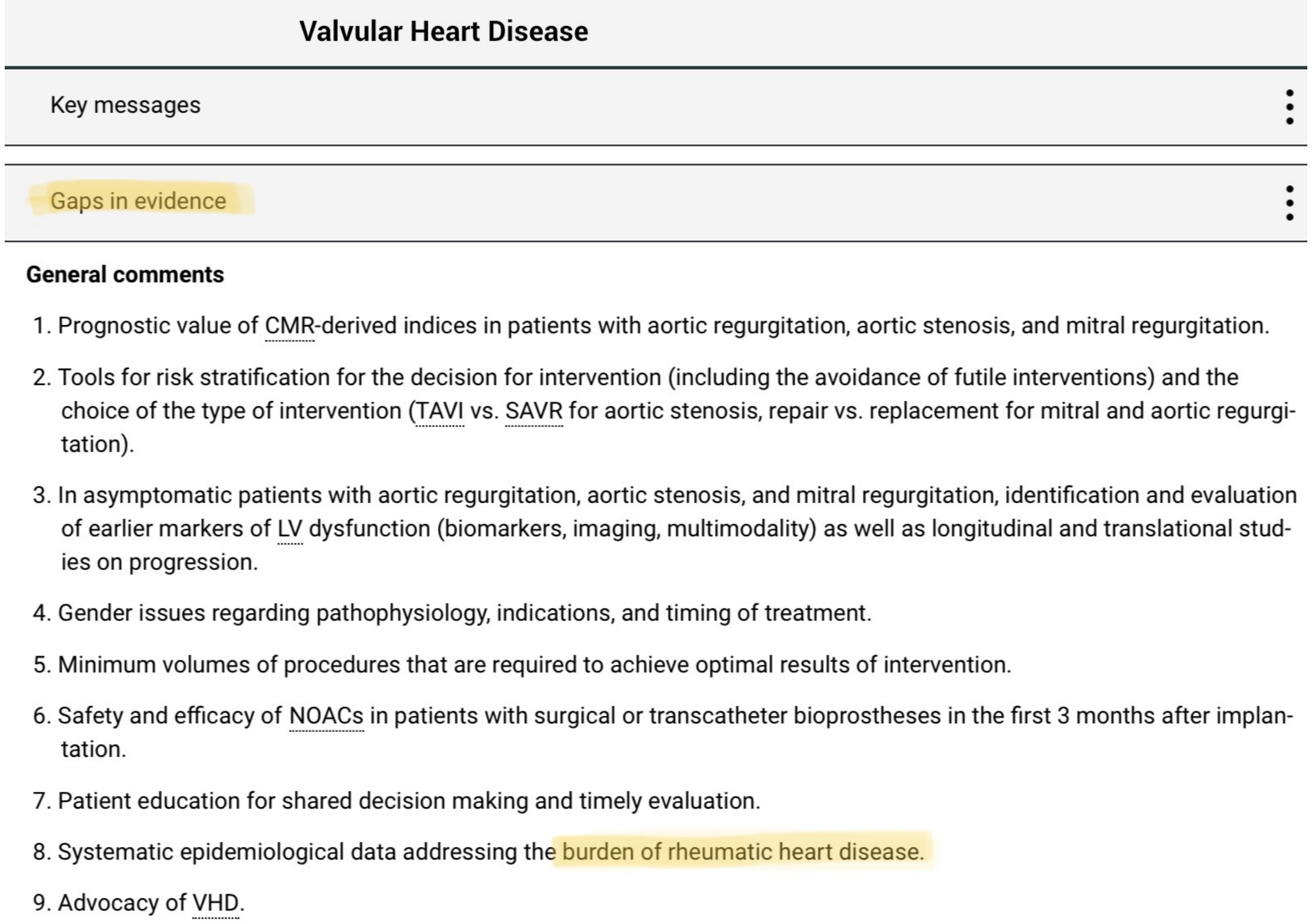
Mr. President, I would like to begin by expressing my gratitude to the Association for the priviledge of presenting the Honored Guest Lecture at the Sixty-third Annual Meeting of The American Association for Thoracic Surgery. What surprises me the most in this meeting is my presence on this podium, since this honor is usually reserved for more senior and preeminent figures in thoracic surgery. I suppose that you wanted to distinguish a team rather than a man, so that I would like to share this honor with my co-workers who are present in this room: Drs. Deloche, Fabiani, Chauvaud, Relland, Lessana, Lapeyre, Mrs. Chauveau, Mrs. Menissier, Mrs. Veneziani, and with my wife, Sophie, who has participated in my laboratory work throughout the years. I also would like to pay special tribute to my identification badge, I observed with great admiration and respect the famous people wearing a white printed badge and seated in a carefully delineated area of reserved seats! Permit me to tell you how proud I am to enter your prestigious circle.

Guests, you are seated outside this circle, but only temporarily! I address you specifically, since you represent the future of thoracic surgery and the future of this august Association.

Members and guests, cardiac surgery has achieved remarkable progress in the past 10 years. Safer techniques of anesthesia and postoperative care, improved extracorporeal circulation and myocardial protection, and sophisticated surgical techniques are new tools which have been instrumental in reducing hospital

Study Justification

- European Society VHD 2021 Guidelines



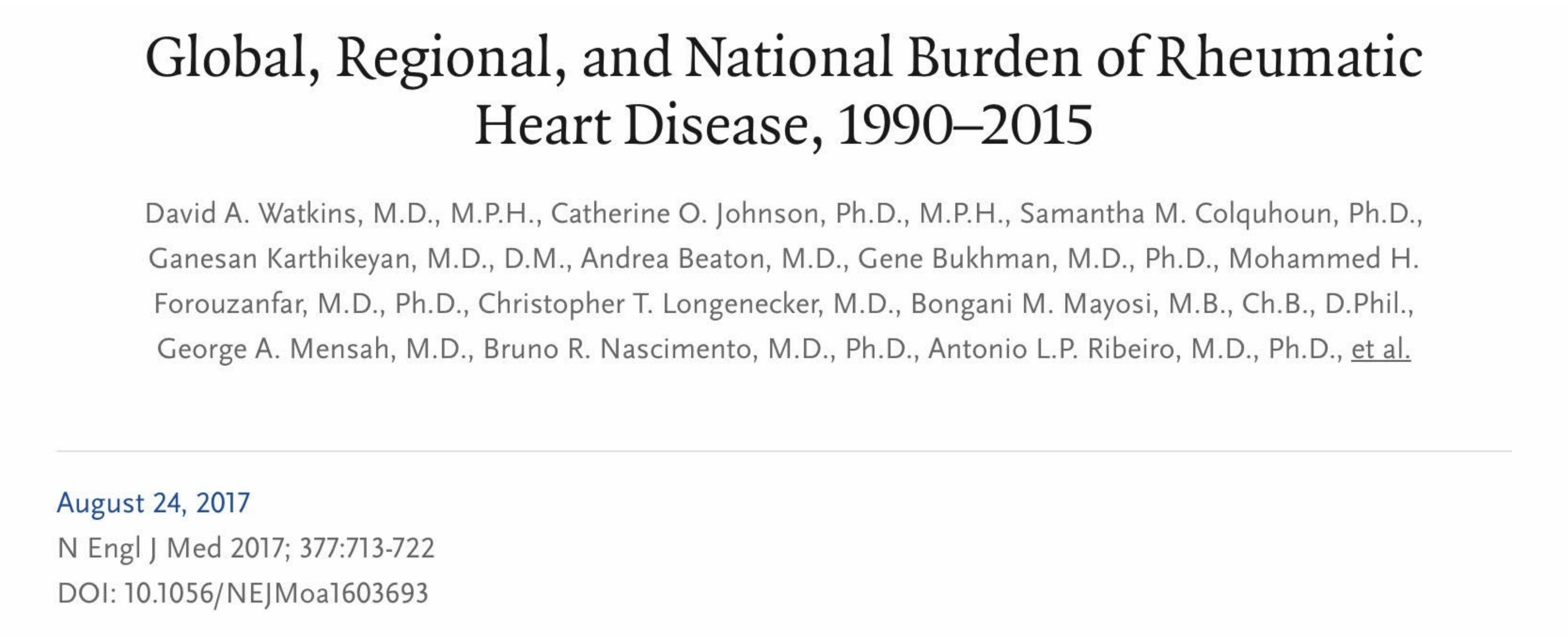
Valvular Heart Disease

Key messages

Gaps in evidence

General comments

1. Prognostic value of CMR-derived indices in patients with aortic regurgitation, aortic stenosis, and mitral regurgitation.
2. Tools for risk stratification for the decision for intervention (including the avoidance of futile interventions) and the choice of the type of intervention (TAVI vs. SAVR for aortic stenosis, repair vs. replacement for mitral and aortic regurgitation).
3. In asymptomatic patients with aortic regurgitation, aortic stenosis, and mitral regurgitation, identification and evaluation of earlier markers of LV dysfunction (biomarkers, imaging, multimodality) as well as longitudinal and translational studies on progression.
4. Gender issues regarding pathophysiology, indications, and timing of treatment.
5. Minimum volumes of procedures that are required to achieve optimal results of intervention.
6. Safety and efficacy of NOACs in patients with surgical or transcatheter bioprostheses in the first 3 months after implantation.
7. Patient education for shared decision making and timely evaluation.
8. Systematic epidemiological data addressing the burden of rheumatic heart disease.
9. Advocacy of VHD.

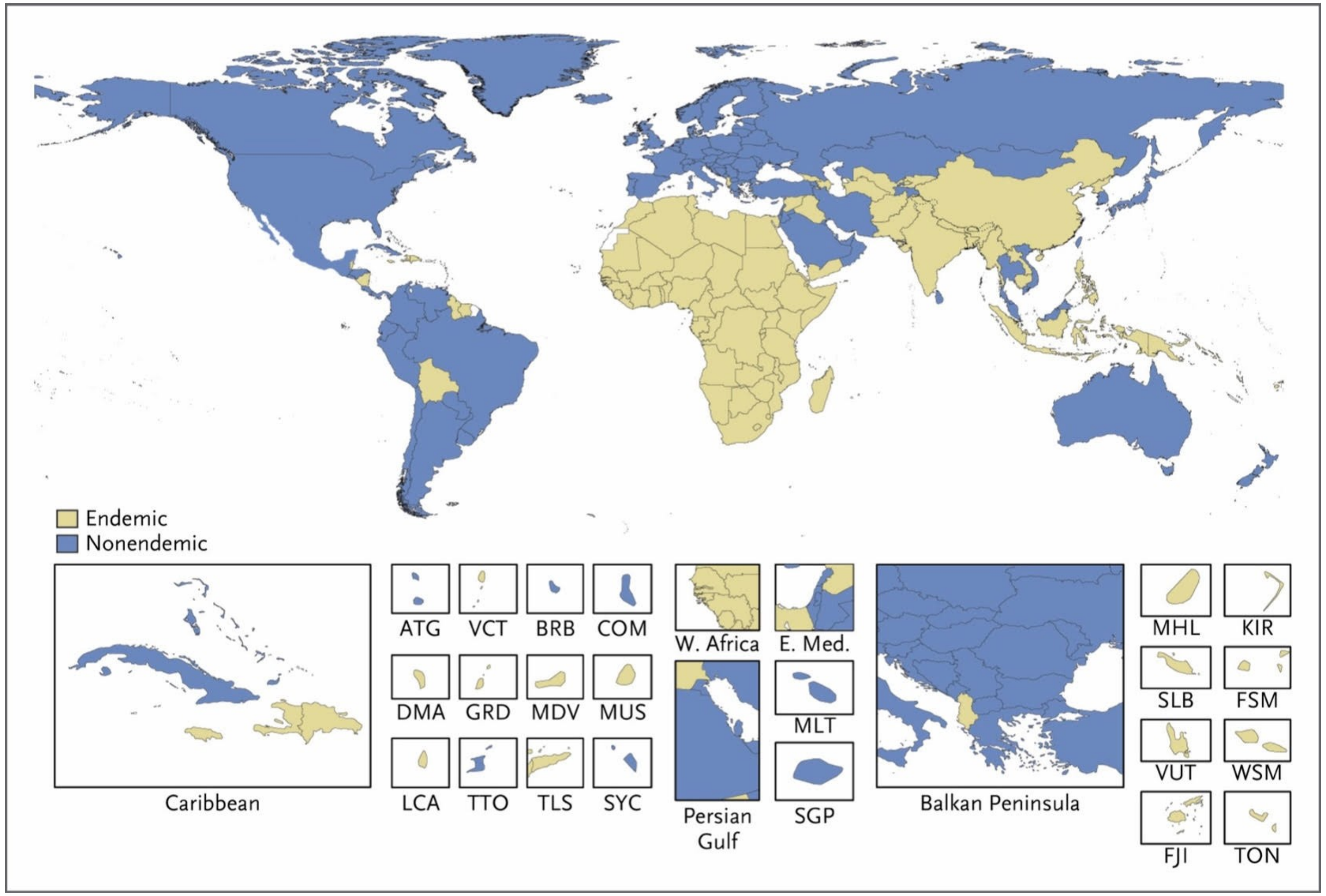


Global, Regional, and National Burden of Rheumatic Heart Disease, 1990–2015

David A. Watkins, M.D., M.P.H., Catherine O. Johnson, Ph.D., M.P.H., Samantha M. Colquhoun, Ph.D., Ganesan Karthikeyan, M.D., D.M., Andrea Beaton, M.D., Gene Bukhman, M.D., Ph.D., Mohammed H. Forouzanfar, M.D., Ph.D., Christopher T. Longenecker, M.D., Bongani M. Mayosi, M.B., Ch.B., D.Phil., George A. Mensah, M.D., Bruno R. Nascimento, M.D., Ph.D., Antonio L.P. Ribeiro, M.D., Ph.D., et al.

August 24, 2017
N Engl J Med 2017; 377:713-722
DOI: 10.1056/NEJMoa1603693

- 33.5 million cases of RHD
- 320 000 mortality in 2015
- Endemic areas (Africa, South Asia& Oceania)
- 444/100 000 population in endemic countries
- 3.4/100 000 population in non-endemic countries


Endemic
Nonendemic
Caribbean
ATG
VCT
BRB
COM
DMA
GRD
MDV
MUS
LCA
TTO
TLS
SYC
W. Africa
E. Med.
Persian Gulf
MLT
SGP
Balkan Peninsula
MHL
KIR
SLB
FSM
VUT
WSM
FJI
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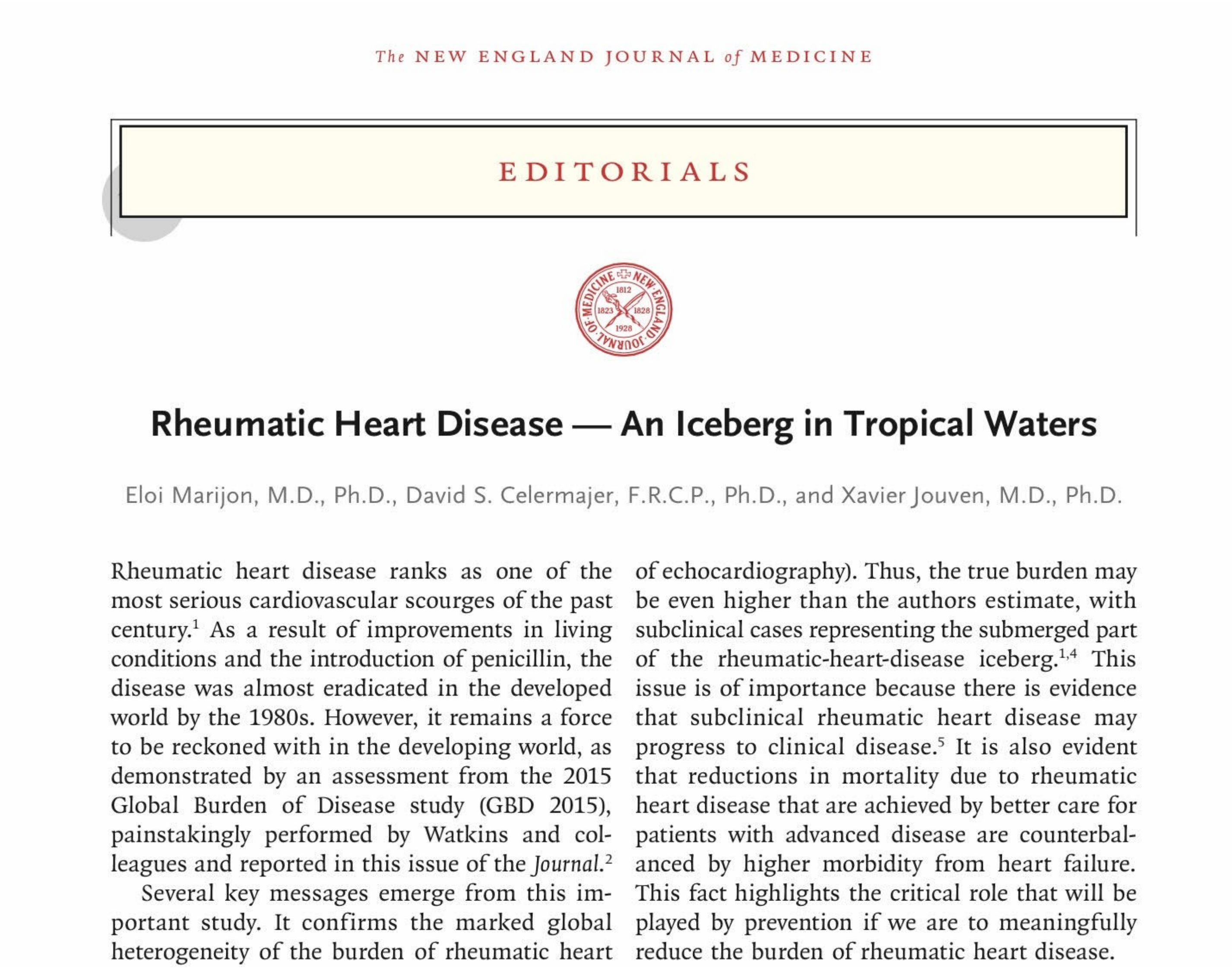


The NEW ENGLAND JOURNAL *of* MEDICINE

EDITORIALS

Rheumatic Heart Disease — An Iceberg in Tropical Waters

Eloi Marijon, M.D., Ph.D., David S. Celermajer, F.R.C.P., Ph.D., and Xavier Jouven, M.D., Ph.D.

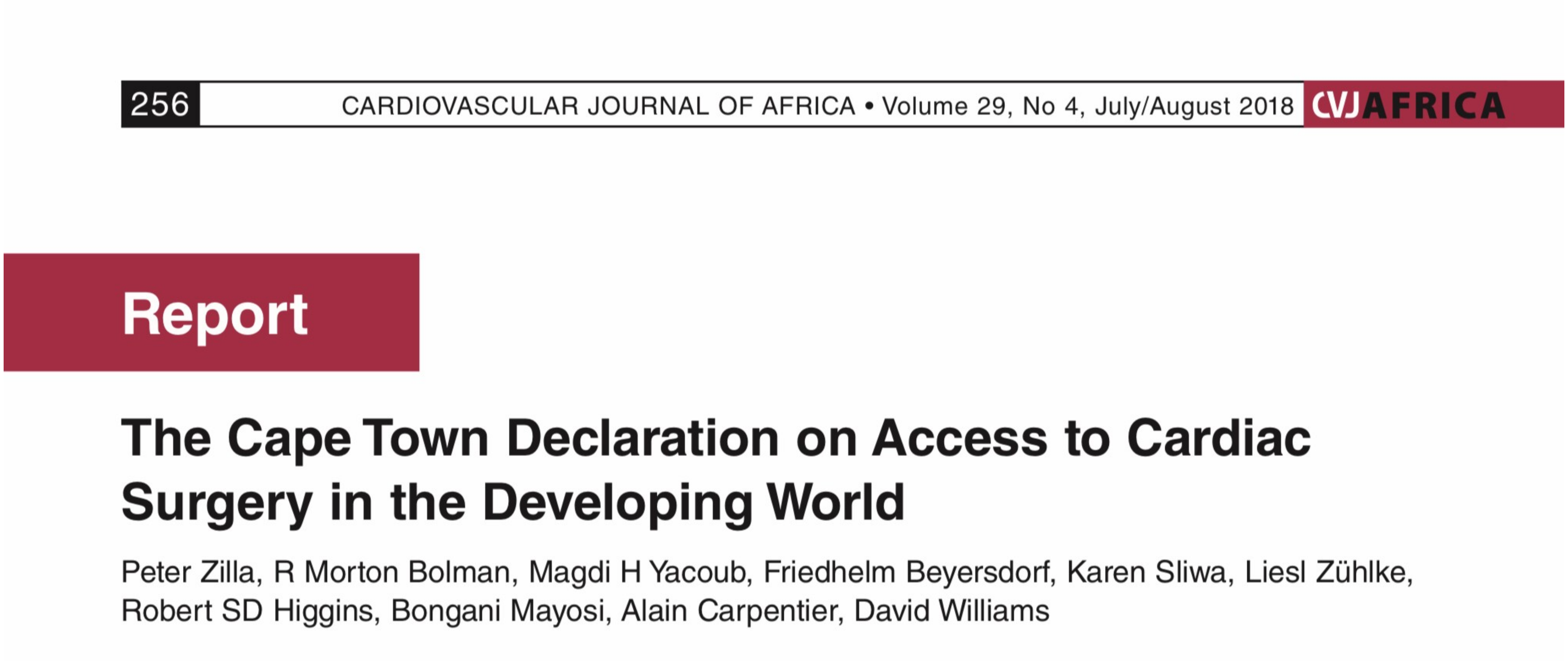
Rheumatic heart disease ranks as one of the most serious cardiovascular scourges of the past century.[1] As a result of improvements in living conditions and the introduction of penicillin, the disease was almost eradicated in the developed world by the 1980s. However, it remains a force to be reckoned with in the developing world, as demonstrated by an assessment from the 2015 Global Burden of Disease study (GBD 2015), painstakingly performed by Watkins and colleagues and reported in this issue of the *Journal*.[2]

Several key messages emerge from this important study. It confirms the marked global heterogeneity of the burden of rheumatic heart of echocardiography). Thus, the true burden may be even higher than the authors estimate, with subclinical cases representing the submerged part of the rheumatic-heart-disease iceberg.[1,4] This issue is of importance because there is evidence that subclinical rheumatic heart disease may progress to clinical disease.[5] It is also evident that reductions in mortality due to rheumatic heart disease that are achieved by better care for patients with advanced disease are counterbalanced by higher morbidity from heart failure. This fact highlights the critical role that will be played by prevention if we are to meaningfully reduce the burden of rheumatic heart disease.

Frontiers in Cardiovascular Medicine
Frontiers Media SA

The “Cairo Accord”- Towards the Eradication of RHD: An Update

Susy Kotit, David I. W. Phillips, [...], and Magdi Yacoub



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Report

The Cape Town Declaration on Access to Cardiac Surgery in the Developing World

Peter Zilla, R Morton Bolman, Magdi H Yacoub, Friedhelm Beyersdorf, Karen Sliwa, Liesl Zühlke, Robert SD Higgins, Bongani Mayosi, Alain Carpentier, David Williams

- **Research Question:**

Is mitral valve repair having superior mid-term outcomes

in terms of survival and reoperation rates?

- **Study Design:**

A comparative retrospective clinical study was conducted at Suez Canal University Hospital and Aswan Heart Centre (-Magdi Yacoub Heart Foundation) from January 2016 to December 2018.

Retrospective analysis of electronic database (Redcap) of patients who underwent mitral valve surgery for rheumatic heart disease, either mitral valve replacement with a mechanical prosthesis or mitral valve repair.

Follow-up data were analyzed by using cardiology and cardiac surgery outpatient follow-up notes, computer- based databank, and telephone interviews. Survivors were followed echocardiographically.

- **Inclusion criteria:**

  Isolated mitral valve surgery (with or without) tricuspid valve surgery, Elective cases, Ejection fraction of more than 40%.

- **Exclusion criteria:**

  Degenerative valve disease, Congenital valve disease, Concomitant aortic valve surgery, Concomitant cox maze surgery, Concomitant CABG, Emergency cases, Redo cases, CKD, EF of less than 40% and patients with missing information and those whose medical records are not available were also excluded.

- **Sample size:**

We included 203 patients who fulfilled the inclusion criteria. Patients were divided into two groups: Group A (n=107): Mitral repair group and Group B (n=96): Mitral replacement group.

The mean Follow up periods was 69.6 ± 6 months.

- **Primary end points:**

Survival rate & reoperation rate.

- **Secondary end points:**

Thromboembolism, anti-coagulation related complications & preservation of LV function.

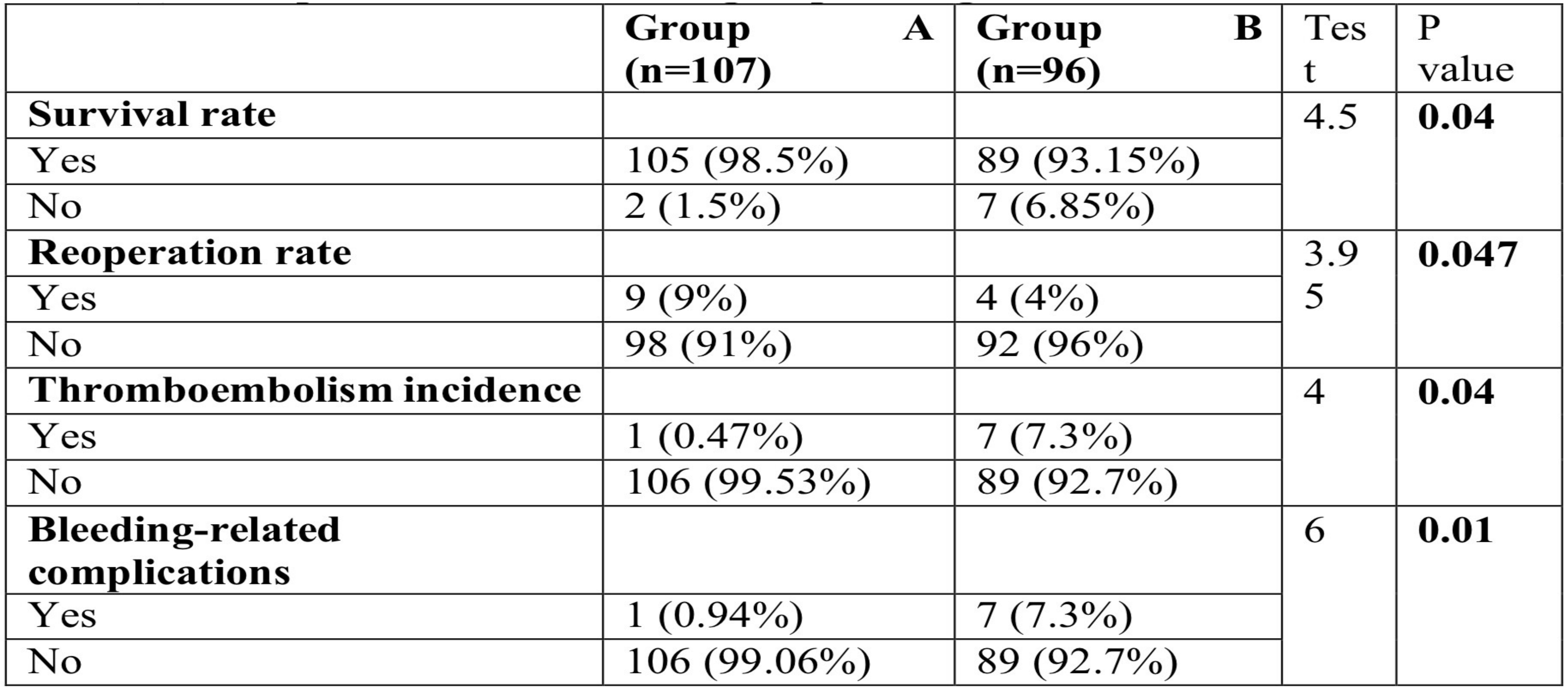
- **Study variables:**

Independent variables:

Mitral valve replacement by prosthetic valve with preservation of both mitral leaflets (either Khonsari or Mikki techniques) and

Mitral valve repair by different techniques (peeling of cusps, commissurotomy, chordal transfer, artificial chords, the release of secondary chords, papillary muscles splitting, thinning or wedge resection of thickened chords, leaflet extension with autologous pericardium and flexible posterior annuloplasty band).

- **Results:**



	Group A (n=107)	**Group B (n=96)**	Test	P value
Survival rate			4.5	**0.04**
Yes	105 (98.5%)	89 (93.15%)		
No	2 (1.5%)	7 (6.85%)		
Reoperation rate			3.95	**0.047**
Yes	9 (9%)	4 (4%)		
No	98 (91%)	92 (96%)		
Thromboembolism incidence			4	**0.04**
Yes	1 (0.47%)	7 (7.3%)		
No	106 (99.53%)	89 (92.7%)		
Bleeding-related complications			6	**0.01**
Yes	1 (0.94%)	7 (7.3%)		
No	106 (99.06%)	89 (92.7%)		

- **Conclusion**:

Repair of mitral valve in complicated RF is linked to a higher rate of subsequent mitral valve surgery. However, it has a decent survival rate and is a reasonable option to valve replacement, particularly for young patients who wish to avoid the hazards that are associated with a prosthetic valve for the rest of their lives and is reasonable also for old patients to avoid major adverse cardiovascular events (MACEs).

Thank you